

EE597

Feb 2, 2012

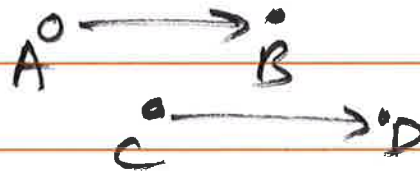
Lecture 8: see PPT slides.

We are now done w/ the PHY layer section of the course.

Next up: Medium Access and Resource Allocation.

Power Control Problems

- power control over independent channels (used in CDMA systems)



under what conditions can a set of links be activated simultaneously?

- Power allocation over parallel channels to maximize the sum-rate (e.g., in multi-user OFDM systems)

Given a fixed power budget, how to split it among multiple channels w/ different SNR.

- Random Access Mechanisms:

- Aloha / slotted Aloha analysis of throughput & the throughput region

- CSMA

- p-persistent CSMA

- Analysis of IEEE 802.11 MAC throughput

Graph coloring & channel Allocation  
in large-scale wireless networks